

Customer No.: 31561  
Application No.: 10/605,793  
Docket No.: 9004-US-PA

## IN THE CLAIMS

Please amend the claims as follows.

1. (Currently amended) A method of forming a polysilicon film ~~of a thin film transistor~~, comprising:

providing a substrate;

forming an amorphous silicon layer over the substrate;

forming an ~~a first~~ optical layer on the amorphous silicon layer, ~~wherein the first optical layer is comprised of a first region having a first thickness and a second region having a second thickness, and a reflectivity of the first region is higher than a reflectivity of the second region;~~

forming and patterning a mask layer on the optical layer;

etching the optical layer to form a heat sink layer and an anti-reflective layer, the heat sink layer being substantially thicker than the anti-reflective layer;

performing a laser annealing to transform at least a portion of the amorphous silicon layer into a molten silicon layer; and

forming a polysilicon film by crystallizing the molten silicon layer to form a polysilicon film.

2. (Currently amended) The method of forming polysilicon film of claim 1, further comprising:

forming and defining a channel region using the polysilicon film as a channel layer; and

forming source/drain regions above the heat sink layer adjacent to the channel

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region.

~~wherein the step of forming the optical layer comprising the first region and the second region further comprises:~~

~~forming an optical material layer on the amorphous silicon layer, wherein the optical material layer has a first thickness;~~

~~forming a patterned mask layer on the optical material layer; and~~

~~etching a portion of the first optical material layer using the patterned mask layer as a mask until the etched portion of the first optical material layer reaches a second thickness.~~

3. (Currently amended) The method of forming a polysilicon film of claim 1, wherein the step of etching the optical material layer is performed by ~~comprises~~ an anisotropic etching process.

**Claim 4 (Canceled).**

5. (Currently amended) The method of forming a polysilicon film of claim 1, wherein ~~the material of the first optical layer is formed by a thermal conductive material~~ selected from the a group consisting of silicon nitride and silicon oxide.

6. (Currently amended) The method of forming a polysilicon film of claim 1, further comprising forming an insulation ~~isolation~~ layer between the substrate and the amorphous silicon layer.

**Claim 7 (Canceled).**

8. (Currently amended) The method of forming a polysilicon film of claim 1, wherein a reflectivity of the anti-reflective layer is higher than the reflectivity of the heat

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~~sink layer the first optical layer having the second thickness exhibit a minimum reflectivity to the laser.~~

9. (Currently Amended) A method of forming a polysilicon film of a thin film transistor, the method comprising:

providing a substrate;

forming an amorphous silicon layer over the substrate;

forming an ~~a first optical layer on the amorphous silicon layer having a first thickness and a second optical layer having a second thickness on the amorphous silicon layer, wherein a reflectivity of the first optical layer having the first thickness is higher than a reflectivity of the second optical layer having the second thickness;~~

forming and patterning a mask layer on the optical layer;

etching the optical layer to form a heat sink layer and an anti-reflective layer, the heat sink layer being substantially thicker than the anti-reflective layer;

performing a laser annealing to transform at least a portion of the amorphous silicon layer into a molten silicon layer ; and

forming and defining a channel region by crystallizing the molten silicon layer;  
~~to form a polysilicon film. and~~

forming and defining source/drain regions above the heat sink layer adjacent to the channel region.

Claim 10 (Canceled).

11. (Currently Amended) The method of forming a polysilicon film of a thin film transistor as claimed in claim 9, wherein ~~the materials of the first optical layer is~~

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formed by a thermal conductive material ~~and the second optical layer are~~ selected from the a group consisting of silicon nitride and silicon oxide.

12. (Currently Amended) The method of forming a polysilicon film of a thin film transistor as claimed in claim 9, further comprising forming an insulation isolation layer between the substrate and the amorphous silicon layer.

**Claim 13 (Canceled).**

14. (Currently Amended) The method of forming a polysilicon film of a thin film transistor as claimed in claim 9, wherein a reflectivity of the anti-reflective layer is higher than the reflectivity of the heat sink layer ~~the second optical layer exhibit a minimum reflectivity to the laser.~~